369891

DEPARTMENT OF THE ARMY
HEADQUARTERS, NEW YORK AREA COMMAND AND FORT HAMILTON
BROOKLYN, NEW YORK 11252

REPLY TO ATTENTION OF

October 3, 1997

DIRECTORATE OF PUBLIC WORKS
ENVIRONMENTAL DIVISION

Peter 10/23/97 phone

Totten - no prob - continue monitoring

Bellmore - all ok - no monitoring

Ms. Daisy Mather
USEPA Region II
290 Broadway
18th Floor
New York, N.Y. 10007

Work in November - Totten Seals in Little Bay
- spot in Old Fort - Mercury
- 2 locations - fill pipes - tanks - excavate soil
- mon. wells 4th round sampling - tight test - UST

Dear Daisy,

Enclosed you will find the Quarterly Groundwater Monitoring Report for Fort Totten and Bellmore, which summarizes analytical results from the first three sampling/analysis rounds (November/December 1996, March 1997 and July 1997). All of the Fort Totten and Bellmore wells were re-sampled in July 1997 to provide PCB/Pesticides data, which was unavailable for the second quarter due to laboratory instrument malfunction. The results of the PCB/Pesticides re-sampling/analysis are included in the enclosed report.

RAB after Results

If you have any questions please contact me at (718) 630-4485.

Bellmore
- Nav. work, too
- remove sink drainage ditch
- confirm samples
- 2 dry wells - lift covers
- 3 UST 25,000 #2 oil 1,000 removal
- look for possible UST
- fill port sink removal
- decom. hydraulic lifts
- 2 borings bldg 300 PCB
- Asbestos survey bldg 300
- sulfuric acid on bench

→ Will send workplan

Sincerely,

Peter Koutroubis
Peter Koutroubis
BRAC Environmental Coordinator
Directorate of Public Works

Encl
as

LRA - voted 11-4
give to NYC FD
- mixed use
FD
Senior housing?
open space
no reuse plan yet

- valve - bldg 100
- look for possible tank

NEPA - EA

CY 98 - update EBS
FOST
- cultural resources survey (Bldg 300)

DATA VALIDATION REPORT

PROJECT:	Fort Totten, Project #66714-103-00
LABORATORY:	Core Laboratories Incorporated, (Edison, NJ) Laboratory Job Number: 5097098303
REVIEWER:	Eric S. Reynolds, ICF Kaiser Engineers, Inc. (Fairfax, VA)
ANALYSES:	Pesticides/PCBs Compounds by USEPA CLP-SOW OLM01.8
MATRIX:	13 Aqueous Field Samples, 1 Rinse Blank Sample, and 2 Trip Blank Samples
DATE:	September 22, 1997

I. INTRODUCTION

Core Laboratories Incorporated of Edison, NJ received thirteen (13) aqueous field samples, one (1) rinse blank sample, and two (2) trip blank samples. The analyses were performed for the chlorinated pesticide and polychlorinated biphenyl (PCBs) organic compounds on 5 and 6 September 1997. The samples were collected on 15 and 16 July 1997 and relinquished by ICF Kaiser Engineers on 15 and 17 July 1997. Analytical data for all field samples and blanks in the sample delivery group were included for validation in this report.

The field sample identification numbers and corresponding laboratory identification numbers are as follows:

FIELD SAMPLE ID NO.	LABORATORY SAMPLE ID NO.	MATRIX
FTMW01	BWN700	WATER
FTMW02	BWN701	WATER
FTMW03	BWN702	WATER
FTMW04	BWN703	WATER
FTMW05	BWN704	WATER
FTMW06	BWN705	WATER
FTMW07	BWN706	WATER
FTMW08	BWN707	WATER
FTMW09	BWN708	WATER
FTMW10	BWN709	WATER
FTMW12	BWN710	WATER
P1	BWN711	WATER
FTMW01D	BWN712	WATER
FTRB01	BWN713	WATER
FTTB03	BWN714	WATER
FTTB04	BWN715	WATER

Sample identification (ID) numbers noted above correlate to the field and laboratory sample number registered on the project chain-of-custody and the associated laboratory analytical report. No sample was designated as the matrix spike/matrix spike duplicate sample for this delivery group. The laboratory selected sample TAPWATER for the matrix spike/matrix spike duplicate sample. Sample's FTTB03 and FTTB04 were designated as the trip blank samples for sample this SDG. Sample FTRB01 was designated as the rinse blank sample for this SDG. Sample's FTMW01 and FTMW01D were designated as the duplicate samples for this SDG.

This report was prepared according to USEPA Contract Laboratory Program SOW OLM01.1 to OLMO1.8 as published by the USEPA. Additional technical guidance was obtained from the *National Functional Guidelines for Organic Data Review* (USEPA, June 1992) and the *Innovative Approaches for Validation of Organic and Inorganic Data Standard Operating Procedures* (USEPA, June 1995). The overall quality of

the data in this package was acceptable with the qualifications summarized below.

SAMPLE ID	PESTICIDE/PCB COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	SECTION
All	All TCL Compounds	J/UJ	Technical Holding Time	2.1
All	alpha-BHC gamma-BHC (Lindane) Endrin	J	Performance Evaluation Mixture (PEM)	3.2.3
All	Endosulfan Sulfate	J	Initial Calibration	4.1.1
FTMW02 FTMW06 FTMW07 FTRB01 P1	All TCL Compounds	J	Surrogate Recovery	6.1.1
All	4.4'-DDT Methoxychlor Decachlorobiphenyl	J	Pesticide Cleanup Check	5.3.1

II. DATA QUALIFICATIONS

1.0 SAMPLING DOCUMENTATION

1.1 Chain-of-custody (COC) documentation for the field samples contained no indication of sample MS/MSD designated sample. The samples were preserved correctly and temperature recorded by the laboratory was at 3°C and 3°C, respectively.

2.0 TECHNICAL HOLDING TIME

2.1 All samples were extracted within technical holding time criteria's. The analyses technical holding time was met for this SDG except for the following:

Sample	# of Days Technical Holding Time Exceeded	Flag
FTMW01	7	J/UJ
FTMW01D	8	
FTMW02	7	
FTMW03	7	
FTMW04	7	
FTMW05	8	
FTMW06	8	
FTMW07	8	
FTMW08	8	
FTMW09	8	
FTMW10	8	
FTMW12	8	
P1	8	
FTRB01	8	

3.0 GC/ECD INSTRUMENT PERFORMANCE CHECK

3.1 Resolution Check

3.1.1 All resolution check QC criterion for the initial calibration sequence on each GC column was performed. The compound resolution between adjacent peaks of required compounds were greater than or equal to 60%.

3.2 Performance Evaluation Mixtures (PEMs)

3.2.1 All performance evaluation mixtures were analyzed at the proper frequency. The resolution between adjacent peaks was 100% on both GC columns. The absolute retention times for the initial and continuing PEMs were within the calculated retention time windows based on the three-point initial calibration.

3.2.2 The individual 4,4'-DDT and Endrin breakdowns were less than 20% and the combined breakdowns were less than 30%.

3.2.3 The relative percent difference (RPD) of amount PEMs were within 25.0% QC limits with the following exceptions:

Date	Column	Compound	%RPD	Associated Samples	Flag
8-13-97	DB5	alpha-BHC	30.0	All samples associated with this SDG.	J
9-2-97	DB608	alpha-BHC gamma-BHC (Lindane) Endrin	40.0 30.0 30.0	All samples associated with this SDG.	J

4.0 INSTRUMENT CALIBRATION

4.1 Initial Calibration

4.1.1 All initial calibration QC criteria for the calibration sequence and the single and multi-component compounds for both columns were met for this SDG. The retention windows were established according to the method. The percent relative standard deviations (%RSD) of calibration factors for single component compounds were within the 20.0% QC limits with the following exceptions:

Date	Column	Compound	%RSD	Associated Samples	Flag
9-02-97	DB608	Endosulfan sulfate	21.1	All samples associated with this SDG.	J

4.2 Continuing Calibration

4.2.1 All continuing calibration QC criteria were met for this SDG. No flags, actions or qualifications were applied to the data based upon the continuing calibration criteria.

5.0 BLANK SAMPLE ANALYSES

5.1 Laboratory Method/Instrument Blank Analyses

5.1.1 Method blank analyses were performed for each matrix and at the required frequencies. No chlorinated pesticide contaminates were found in the method blank. No flags, actions, or qualifications were applied to the data based upon the method blank analyses criteria.

5.2 Trip Blank Analyses

5.2.1 No target chlorinated pesticide and PCB compound was detected in the trip blank samples FTTB03 and FTTB04. No flags, actions, or qualifications were applied to the data based upon the trip blank sample analyses criteria.

5.3 Rinse Blank Analyses

5.3.1 No target chlorinated pesticide and PCB compound was detected in the rinse blank sample FTRB01 for this SDG. No flags, actions, or qualifications were applied to the data based upon the rinse blank sample analyses criteria.

6.0 ORGANIC QC PARAMETERS

6.1 Surrogate Spike Performance

6.1.1 Surrogates were added to all samples, standards, and blanks as required by the SOW. The retention times for the surrogates were within the QC limits. All surrogate recoveries were within the QC limits of 60-150% with the following exceptions:

Sample	Column	Surrogate	%R	Compound	Flag
FTMW01	DB608	Tetrachloro-m-xylene	58	-----	-
FTMW02	DB5 DB608	Tetrachloro-m-xylene Tetrachloro-m-xylene	30 36	All TCL Compounds	J
FTMW03	DB5	Tetrachloro-m-xylene	54	-----	-
FTMW04	DB608	Decachlorobiphenyl	187	-----	-
FTMW05	DB5 DB608	Tetrachloro-m-xylene Decachlorobiphenyl	34 156	-----	-
FTMW06	DB5 DB608 DB608	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	17 34 214	All TCL Compounds	J
FTMW07	DB5 DB608	Tetrachloro-m-xylene Tetrachloro-m-xylene	45 48	All TCL Compounds	J
FTMW08	DB608	Decachlorobiphenyl	166	-----	-
FTMW09	DB608	Decachlorobiphenyl	185	-----	-
FTMW10	DB5	Decachlorobiphenyl	47	-----	-
FTMW12	DB5 DB608	Tetrachloro-m-xylene Decachlorobiphenyl	53 158	-----	-
FTRB01	DB5 DB608 DB608	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	23 29 152	All TCL Compounds	J
P1	DB5 DB608 DB608	Tetrachloro-m-xylene Tetrachloro-m-xylene Decachlorobiphenyl	14 32 208	All TCL Compounds	J
TAPWATER	DB608	Decachlorobiphenyl	168	-----	-
TAPWATERMS	DB608 DB608	Tetrachloro-m-xylene Decachlorobiphenyl	156 209	-----	-
TAPWATERMSD	DB608	Decachlorobiphenyl	166	-----	-
Florisil Check	DB5	Tetrachloro-m-xylene	58	-----	-

5.2 Matrix Spike Analysis

5.2.1 The laboratory performed the matrix spike/matrix spike duplicate analyses on sample TAPWATER for this SDG. It was noted that the sample selected for the MS/MSD analyses was tap water. No information pertaining to sample matrix interference can be

obtained from the use of the tap water as the MS/MSD. However, the precision and accuracy of the laboratory can be determined. All matrix spike/matrix spike duplicate sample QC criteria were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the MS/MSD criteria.

5.3 **Pesticide Cleanup Checks**

5.3 **Florisil Cartridge Check**

5.3.1 Florisil cartridge checks were performed as required. All florisil cartridge check recoveries were within the QC limits of 80-120% with the following exceptions:

Samples	Column	Compound	%R	Flag
All samples associated with this SDG.	DB5	4,4'-DDT Methoxychlor Decachlorobiphenyl	122 133 66	J J/UJ J/UJ

6.0 COMPOUND IDENTIFICATION AND QUANTITATION

6.1 No problems were observed with compound identification or quantitation for sample analyses associated with the SDG. No flags, actions, or qualifications were applied to the data based upon the compound identification and quantitation criteria.

7.0 SYSTEM PERFORMANCE

7.1 No problems were observed with the system performance for sample analyses associated with the SDG. No flags, actions, or qualifications were applied to the data based upon the system performance criteria.

8.0 ELEVATED DETECTION LIMITS

8.1 No samples had elevated detection limits.

9.0 FIELD DUPLICATE ANALYSES

9.1 Samples FTMW01 and FTMW01D were identified as field duplicates. No chlorinated pesticide and PCB compounds were detected in any of the samples.

10.0 DATA QUALIFIER DEFINITION

NO QUALIFIERS indicates that the data are acceptable both qualitatively and quantitatively.

J- Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

UJ- The reported quantitation limit is estimated because QC criteria were not met. The compound was not detected.

JB- Results are estimated because the compound was detected in an associated blank.

R- Reported value is "rejected." Re-sampling or reanalysis may be necessary to verify the presence or absence of the compound.

SDG 7

DATA VALIDATION REPORT

PROJECT:	Fort Totten, Project #66714-103-00
LABORATORY:	Core Laboratories Incorporated, (Edison, NJ) Laboratory Job Number: 5097098303
REVIEWER:	Eric S. Reynolds, ICF Kaiser Engineers, Inc. (Fairfax, VA)
ANALYSES:	Volatile Organic Compounds by USEPA CLP-SOW OLM01.8
MATRIX:	3 Aqueous Field Samples, 1 Rinse Blank Sample, and 2 Trip Blank Samples
DATE:	September 22, 1997

I. INTRODUCTION

Core Laboratories Incorporated of Edison, NJ received three (3) aqueous field samples, one (1) rinse blank sample, and two (2) trip blank samples. The samples were analyzed for the volatile organic compounds on the 15 and 17 July 1997. The samples were collected on 15 and 16 July 1997 and relinquished by ICF Kaiser Engineers on 15 and 17 July 1997. Analytical data for all field samples and blanks in the sample delivery group were included for validation in this report.

The field sample identification numbers and corresponding laboratory identification numbers are as follows:

FIELD SAMPLE ID NO.	LABORATORY SAMPLE ID NO.	MATRIX
FTMW02	BWN701	WATER
FTMW03	BWN702	WATER
FTMW10	BWN709	WATER
FTRB01	BWN713	WATER
FTTB03	BWN714	WATER
FTTB04	BWN715	WATER

Sample identification (ID) numbers noted above correlate to the field and laboratory sample number registered on the project chain-of-custody and the associated laboratory analytical report. No sample was designated as the matrix spike/matrix spike duplicate sample for this delivery group. The laboratory selected sample FTRB01 for the matrix spike/matrix spike duplicate sample. Sample's FTTB03 and FTTB04 were designated as the trip blank samples for sample this SDG. Sample FTRB01 was designated as the rinse blank sample for this SDG. No sample duplicate samples were designated for this SDG.

This report was prepared according to USEPA Contract Laboratory Program SOW OLM01.1 to OLMO1.8 as published by the USEPA. Additional technical guidance was obtained from the *National Functional Guidelines for Organic Data Review* (USEPA, June 1992) and the *Innovative Approaches for Validation of Organic and Inorganic Data Standard Operating Procedures* (USEPA, June 1995). The overall quality of the data in this package was acceptable with the qualifications summarized below.

SAMPLE ID	VOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	SECTION
All	Column bleed Column bleed	JB	Blank Contamination	4.1 4.2 4.3

II. DATA QUALIFICATIONS

1.0 SAMPLING DOCUMENTATION

1.1 Chain-of-custody (COC) documentation for the field samples contained no indication of sample MS/MSD designated sample. The samples were preserved correctly and temperature recorded by the laboratory was at 3°C and 3°C, respectively.

2.0 TECHNICAL HOLDING TIME

2.1 All technical holding time criteria's were met for this SDG. No flags, actions, or qualifications were applied to the data based upon the technical holding time criteria.

3.0 INSTRUMENT CALIBRATION AND TUNING

3.1 Initial Calibration

3.1.1 All initial calibration and tuning QC criteria were met for this SDG. No flags, actions or qualifications were applied to the data based upon the initial calibration criteria.

3.2 Continuing Calibration

3.2.1 All continuing calibration and tuning QC criteria were met for this SDG. No flags, actions or qualifications were applied to the data based upon the continuing calibration criteria.

4.0 BLANK SAMPLE ANALYSES

4.1 Laboratory Method/Preparation Blank Analyses

4.1.1 Column bleed (60.0 ug/L) of retention time (RT) 23.7 and column bleed (67.0 ug/L) of RT 27.43 were detected in the method blank sample VBLK01. All positive results less than 5X the blank concentration for the column bleeds at RT 23.7 and 27.43, respectively, were qualified as estimated "JB" for the following samples: FTMW02, FTMW03, FTMW10, FTRB01, FTTB03, and FTTB04.

4.2 Trip Blank Analyses

4.2.1 Column bleed (220.0 ug/L) of RT 23.7 and column bleed (77.0 ug/L) of RT 27.38 were detected in the trip blank sample FTTB03. All positive results less than 5X the blank concentration for the column bleeds at RT 23.7 and 27.38, respectively, were qualified as estimated "JB" for the following samples: FTMW02, FTMW03, and FTMW10.

4.2.2 Column bleed (160.0 ug/L) of RT 23.68 and column bleed (80.0 ug/L) of RT 27.37 were detected in the trip blank sample FTTB04. All positive results less than 5X the blank concentration for the column bleeds at RT 23.68 and 27.37, respectively, were qualified as estimated "JB" for the following sample: FTRB01.

4.3 Rinse Blank Analyses

4.3.1 Column bleed (64.0 ug/L) of RT 23.7 and column bleed (66.0 ug/L) of RT 27.42 were detected in the rinse blank sample FTRB01. All positive results less than 5X the blank concentration for the column bleeds at RT 23.7 and 27.42, respectively, were qualified as estimated "JB" for the following sample: FTTB03.

5.0 ORGANIC QC PARAMETERS

5.1 Surrogate Spike Performance

5.1.1 All surrogate spike QC criteria were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the surrogate spike criteria.

5.2 Internal Standard Performance

5.2.1 All internal standard QC criteria were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the internal standard performance criteria.

5.3 Matrix Spike Analysis

5.3.1 The laboratory performed the matrix spike/matrix spike duplicate analyses on sample FTRB01 for this SDG. It was noted that the sample selected for the MS/MSD analyses was a rinse blank sample. No information pertaining to sample matrix interference can be obtained from the use of the rinse blank sample as the MS/MSD. However, the precision and accuracy of the laboratory can be determined. All matrix spike/matrix spike duplicate sample QC criteria were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the MS/MSD criteria.

6.0 COMPOUND IDENTIFICATION AND QUANTITATION

6.1 No problems were observed with compound identification or quantitation for sample analyses associated with the SDG. No flags, actions, or qualifications were applied to the data based upon the compound identification and quantitation criteria.

7.0 SYSTEM PERFORMANCE

7.1 No problems were observed with the system performance for sample analyses associated with the SDG. No flags, actions, or qualifications were applied to the data based upon the system performance criteria.

8.0 ELEVATED DETECTION LIMITS

8.1 No samples had elevated detection limits.

9.0 DATA QUALIFIER DEFINITION

NO QUALIFIERS indicates that the data are acceptable both qualitatively and quantitatively.

J- Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

UJ- The reported quantitation limit is estimated because QC criteria were not met. The compound was not detected.

JB- Results are estimated because the compound was detected in an associated blank.

R- Reported value is "rejected." Re-sampling or reanalysis may be necessary to verify the presence or absence of the compound.

DATA VALIDATION REPORT

PROJECT:	Fort Totten, Project #66714-103-00
LABORATORY:	Core Laboratories Incorporated, (Edison, NJ) Laboratory Job Number: 5097098303
REVIEWER:	Eric S. Reynolds, ICF Kaiser Engineers, Inc. (Fairfax, VA)
ANALYSES:	Inorganic Metals by USEPA CLP-SOW ILM04.0
MATRIX:	9 Aqueous Field Samples and 1 Rinse Blank Sample
DATE:	September 22, 1997

I. INTRODUCTION

Core Laboratories Incorporated of Edison, NJ received nine (9) aqueous field samples and one (1) rinse blank sample for the analysis of inorganic metals. The analyses were performed on the 22 through 27 July 1997. The samples were collected on 15 and 16 July 1997 and relinquished by ICF Kaiser Engineers on 15 and 17 July 1997. Analytical data for all field samples and blanks in the sample delivery group were included for validation in this report.

The field sample identification numbers and corresponding laboratory identification numbers are as follows:

FIELD SAMPLE ID NO.	LABORATORY SAMPLE ID NO.	MATRIX
FTMW01	BWN700	WATER
FTMW02	BWN701	WATER
FTMW03	BWN702	WATER
FTMW05	BWN704	WATER
FTMW06	BWN705	WATER
FTMW09	BWN708	WATER
FTMW10	BWN709	WATER
FTMW12	BWN710	WATER
FTMW01D	BWN712	WATER
FTRB01	BWN713	WATER

Sample identification (ID) numbers noted above correlate to the field and laboratory sample number registered on the project chain-of-custody and the associated laboratory analytical report. No sample was designated as the matrix spike/matrix spike duplicate sample for this delivery group. The laboratory selected sample FTMW02 for the matrix spike sample. Sample FTRB01 was designated as the rinse blank sample for this SDG. Sample's FTMW01 and FTMW01D were designated as the duplicate samples for this SDG.

This report was prepared according to USEPA Contract Laboratory Program SOW ILM04.0 as published by the USEPA. Additional technical guidance was obtained from the *National Functional Guidelines for Inorganic Data Review* (USEPA, June 1992) and the *Innovative Approaches for Validation of Organic and Inorganic Data Standard Operating Procedures* (USEPA, June 1995). The overall quality of the data in this package was acceptable with the qualifications summarized below.

SAMPLE ID	INORGANIC ANALYTE	QUALIFIER	REASON FOR QUALIFICATION	SECTION
All	Antimony, Cadmium, Lead, Selenium	J/UJ	CRDL Standard	3.3.1

SAMPLE ID	INORGANIC ANALYTE	QUALIFIER	REASON FOR QUALIFICATION	SECTION
All	Aluminum, Arsenic, Iron, Thallium, Cyanide	J/UJ	Matrix Spike	5.3.1
FTMW01D	Selenium	J	Furnace QC	5.5.1

II. DATA QUALIFICATIONS

1.0 SAMPLING DOCUMENTATION

1.1 Chain-of-custody (COC) documentation for the field samples contained no indication of sample MS designated sample. The samples were preserved correctly and temperature recorded by the laboratory was at 3°C and 3°C, respectively.

2.0 TECHNICAL HOLDING TIME

2.1 All technical holding time criteria's were met for this SDG. No flags, actions, or qualifications were applied to the data based upon the technical holding time criteria.

3.0 INSTRUMENT CALIBRATION

3.1 Initial Calibration Verification (ICV)

3.1.1 All initial calibration verification (ICV) QC criteria's were met for this SDG. No flags, actions or qualifications were applied to the data based upon the ICV criteria.

3.2 Continuing Calibration Verification (CCV)

3.2.1 All continuing calibration verification (CCV) QC criteria's were met for this SDG. No flags, actions or qualifications were applied to the data based upon the CCV criteria.

3.3 Contract Required Detection Limit Analyses (CRDL)

3.3.1 All contract required detection limit (CRDL) QC criteria's were met for this SDG with the following exceptions:

Analyte	%R	Associated Samples	Flag
Antimony	73.0 53.9	All samples associated with this SDG.	J/UJ
Cadmium	124.0	FTMW01, FTMW05, FTMW01D	J
Lead	76.0 60.0	All samples associated with this SDG.	J/UJ
Selenium	126.0	All samples associated with this SDG.	J/UJ

4.0 BLANK SAMPLE ANALYSES

4.1 Laboratory Method/Preparation Blank Analyses

4.1.1 No inorganic analyte was detected in the method blank above the CRDL. No flags, actions, or qualifications were applied to the data based upon the method blank analyses criteria.

4.2 Initial Calibration Blank (ICB)

4.2.1 No target metal analyte was detected above the CRDL in the initial calibration blank (ICB) sample. No flags, actions, or qualifications were applied to the data based upon the ICB analyses criteria.

4.3 Continuing Calibration Blank (CCB)

4.3.1 No target metal analyte was detected above the CRDL in the continuing calibration blank (CCB) sample. No flags, actions, or qualifications were applied to the data based upon the CCB analyses criteria.

4.4 Rinse Blank Analyses

4.4.1 No target metal analyte was detected above the CRDL in the rinse blank sample FTRB01. No flags, actions, or qualifications were applied to the data based upon the rinse blank analyses criteria.

5.0 INORGANIC QC PARAMETERS

5.1 ICP Interference Check Sample (ICS) Analysis

5.1.1 All ICP interference check sample QC criteria's were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the ICP interference check sample criteria.

5.2 Laboratory Control Sample (LCS)

5.2.1 All laboratory control sample (LCS) QC criteria were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the LCS criteria.

5.3 Matrix Spike Analysis

5.3.1 The laboratory performed the matrix spike analyses on sample FTMW02 for this SDG. The percent recoveries were within QC limits with the following exceptions:

Analyte	%R	Associated Samples	Flag
Aluminum	72.8	All samples associated with this SDG.	J
Arsenic	41.0	All samples associated with this SDG.	J
Iron	-10.1	All samples associated with this SDG.	J
Thallium	69.8	All samples associated with this SDG.	J
Cyanide	194.4	All samples associated with this SDG.	J

5.4 ICP Serial Dilution

5.4.1 All ICP serial dilution sample QC criteria were met for sample compounds associated with this SDG. No flags, actions, or qualifications were applied to the data based upon the ICP serial dilution criteria.

5.5 Furnace QC

5.5.1 The method of standard addition for sample FTMW01D for selenium did not meet the required QC limit of 0.995. The sample was reanalyzed and a MSA was re-run with the same results. So, all selenium data for sample FTMW01D was qualified as estimated "J."

6.0 COMPOUND IDENTIFICATION AND QUANTITATION

6.1 No problems were observed with compound identification or quantitation for sample analyses associated with the SDG. No flags, actions, or qualifications were applied to the data based upon the compound identification and quantitation criteria.

7.0 SYSTEM PERFORMANCE

7.1 No problems were observed with the system performance for sample analyses associated with the SDG. No flags, actions, or qualifications were applied to the data based upon the system performance criteria.

8.0 ELEVATED DETECTION LIMITS

8.1 No samples had elevated detection limits.

9.0 FIELD DUPLICATE

9.1 Sample's FTMW01 and FTMW01D were identified as field duplicates. No target inorganic metals were detected in any of the samples with the following exceptions:

	Concentration ug/L		
Compound	**FTMW01**	**FTMW01D**	**RPD**
Aluminum	21700	15200	35.2
Antimony	53.6	53.6	0.0
Arsenic	27.7	20.9	28.0
Barium	800	685	15.5
Beryllium	2.2	1.6	--
Cadmium	9.9	9.3	6.3
Calcium	89700	88200	1.7
Chromium	66.0	50.0	27.6
Cobalt	10.0	11.8	16.5
Copper	95.0	67.1	34.4
Iron	112000	87300	24.8
Lead	722	516	33.2
Magnesium	24700	23000	7.1
Manganese	869	660	27.3
Mercury	0.70	0.54	25.8
Nickel	46.7	32.1	37.1
Potassium	20500	19700	4.0
Selenium	3.3	3.3	--
Silver	3.7	3.7	--
Sodium	65300	66800	2.3
Thallium	2.6	2.6	--
Vanadium	60.9	44.8	30.5
Zinc	539	383	33.8
Cyanide	4.6	16.1	--

10.0 DATA QUALIFIER DEFINITION

NO QUALIFIERS indicates that the data are acceptable both qualitatively and quantitatively.

J- Results are estimated and the data are valid for limited purposes. The results are qualitatively acceptable.

UJ- The reported quantitation limit is estimated because QC criteria were not met. The compound was not detected.

JB- Results are estimated because the compound was detected in an associated blank.

R- Reported value is "rejected." Re-sampling or reanalysis may be necessary to verify the presence or absence of the compound.

TABLE 1
Fort Totten Groundwater Data

Analyte	Groundwater Standards/ Criteria C_w (µ g/L)[a]	FORMER LANDFILL (BRAC PARCEL 74)											
Sample ID		FTMW01			FTMWX (FTMW01DUP)		FTMW01		FTMWO1D (DUP)		FTMW02		
Date		11/20/96		3/12/97		3/12/97	7/15/97		7/15/97		11/20/96		3/11/97
Acetone	50	13.00		ND		ND	-		-		550.00	E	480.00
Aluminum	N/A	52,900.00		24,900.00		35,300.00	21,700.00		15,200.00		2,060.00		10,000.00
Antimony	3	ND		ND		ND	ND		ND		ND		ND
Arsenic	25	73.10		30.90		37.90	27.70		20.90		8.10	B	5.80 B
Barium	1000	1,390.00		996.00		1,020.00	800.00		685.00		87.80	B	117.00 B
Beryllium	3	2.50	B	2.30	B	2.50 B	2.20	B	1.60	B	ND		0.68 B
Bis(2-ethylhexyl)phthalate	50	ND		ND		ND	-		-		ND		ND
Cadmium	10	3.60	B	ND		4.00 B	9.90		9.30		ND		ND
Calcium	N/A	90,600.00		93,500.00		95,400.00	89,700.00		88,200.00		65,300.00		77,500.00
Chromium	50	168.00		77.20		105.00	66.00		50.00		4.70	B	24.80
Cobalt	N\A	46.90	B	23.50	B	27.30 B	10.00	B	11.80		3.20	B	ND
Copper	200	231.00		101.00		139.00	95.00		67.10		5.20	B	25.30
Cyanide	100	28.00		5.40	B	14.10	4.60	B	16.10		ND		ND
Iron	300	182,000.00		125,000.00		139,000.00	112,000.00		87,300.00		14,800.00		44,300.00
Lead	25	1,670.00		910.00		971.00	722.00		516.00		18.00		78.70
Magnesium	35000	33,900.00		26,000.00		29,000.00	24,700.00		23,000.00		33,300.00		20,300.00
Manganese	300	1,940.00		1,030.00		1,230.00	869.00		660.00		596.00		612.00
Mercury	2	2.10		0.14	B	1.20	0.70		0.54		0.12	B	0.25
Methylene chloride	5	23.00	B	ND		ND	-		-		20.00	B	ND
Nickel	N/A	128.00		56.20		76.10	46.70		32.10	B	6.50	B	15.30 B
Potassium	N/A	25,300.00	E	20,900.00		22,600.00	20,500.00		19,700.00		38,000.00	E	26,000.00
Selenium	10	12.10		ND		ND	ND		ND		ND		ND
Silver	50	2.80	B	ND		6.00 B	3.70	B	ND		ND		ND
Sodium	20000	61,600.00		67,900.00		69,600.00	65,300.00		66,800.00		94,900.00		64,400.00
Thallium	4	6.30	B	ND		ND	ND		ND		ND		ND
Vanadium	N\A	159.00		87.20		99.80	60.90		44.80		7.10	B	30.40 B
Zinc	300	1,200.00		763.00		803.00	539.00		383.00		35.80		742.00

TABLE 1
Fort Totten Groundwater Data

Analyte	Groundwater Standards/ Criteria C_w (µ g/L)[a]	FORMER LANDFILL (BRAC PARCEL 74)			BUILDINGS 107,108			
Sample ID		FTMW02	P1		FTMW07		FTMW08	
Date		7/15/97	11/20/96	3/11/97	11/15/96	3/11/97	11/15/96	3/11/97
Acetone	50	87.00	ND	22.00	ND	ND	ND	ND
Aluminum	N/A	1,150.00	6,530.00	717.00	10,400.00	2,100.00	4,210.00	1,480.00
Antimony	3	ND	ND	ND	ND	ND	ND	ND
Arsenic	25	5.30 B	6.40 B	ND	4.10 B	ND	4.90 B	ND
Barium	1000	116.00 B	138.00 B	31.80 B	164.00 B	238.00	111.00 B	61.80
Beryllium	3	ND	ND	ND	1.00	ND	1.00	ND
Bis(2-ethylhexyl)phthalate	50	-	ND	ND	ND	ND	ND	ND
Cadmium	10	ND	1.10 B	ND	1.00	ND	1.00	ND
Calcium	N/A	90,200.00	142,000.00	69,000.00	163,000.00	409,000.00	245,000.00	328,000.00
Chromium	50	9.70 B	19.60	ND	24.90	ND	11.20	6.90 B
Cobalt	N\A	ND	7.70 B	ND	11.00 B	ND	16.70 B	9.70 B
Copper	200	ND	21.60 B	ND	20.40 B	ND	12.10 B	ND
Cyanide	100	-	ND	2.80 B	ND	ND	ND	ND
Iron	300	29,400.00	11,600.00	1,320.00	29,600.00	49,400.00	7,830.00	4,240.00
Lead	25	20.40	35.10	2.60 B	9.40	ND	6.50	ND
Magnesium	35000	12,800.00	42,000.00	15,200.00	12,800.00	21,700.00	58,800.00	78,600.00
Manganese	300	461.00	289.00	34.50	2,840.00	6,270.00	4,880.00	6,190.00
Mercury	2	ND	0.10 B	ND	0.17 B	ND	0.11 B	ND
Methylene chloride	5	-	ND	ND	ND	ND	ND	ND
Nickel	N/A	ND	25.30 B	ND	34.70 B	ND	44.80 B	20.60
Potassium	N/A	17,800.00	10,500.00 E	4,580.00	11,600.00 E	12,900.00	23,900.00 E	20,700.00
Selenium	10	ND	7.10	16.10	3.00	ND	5.60	ND
Silver	50	ND	ND	ND	1.10 B	ND	1.00 B	ND
Sodium	20000	76,900.00	254,000.00	117,000.00	382,000.00	1,170,000.00	367,000.00	339,000.00
Thallium	4	ND	4.40 B	ND	ND	ND	ND	ND
Vanadium	N\A	5.90 B	18.40 B	ND	27.50 B	ND	11.90 B	ND
Zinc	300	107.00	61.50	21.50	48.00	25.60	35.60	71.40

TABLE 1
Fort Totten Groundwater Data

Analyte	Groundwater Standards/ Criteria C_w ($\mu g/L$)[a]	UPGRADIENT WELL IN GEOGRAPHIC AREA E, NORTHEAST OF BUILDING 107				UPGRADIENT WELL, BUILDING 107		BUILDING 602	
Sample ID		FTDP09	FTMW09			FTMW09		FTMW03	
Date		11/19/96	11/19/96		3/12/97	7/15/97		11/20/96	3/11/97
Acetone	50	28.00	ND		ND	-		440.00 E	ND
Aluminum	N/A	29,500.00	45,900.00		76,500.00	21,400.00		25,300.00	4,670.00
Antimony	3	ND	ND		ND	ND		ND	ND
Arsenic	25	12.60	18.10		18.20	8.40 B		24.30	8.00 B
Barium	1000	309.00	436.00		740.00	228.00		387.00	222.00
Beryllium	3	1.50 B	2.50 B		5.10	2.20 B		ND	1.40 B
Bis(2-ethylhexyl)phthalate	50	ND	ND		ND	-		ND	ND
Cadmium	10	ND	ND		ND	ND		ND	3.80 B
Calcium	N/A	85,200.00	103,000.00		161,000.00	91,600.00		230,000.00	303,000.00
Chromium	50	63.20	125.00		204.00	55.90		57.60	8.90 B
Cobalt	N\A	27.40 B	41.00 B		54.50	10.00 B		25.90 B	6.20 B
Copper	200	45.30	65.10		127.00	34.50		72.00	17.10 B
Cyanide	100	ND	ND		ND	-		ND	ND
Iron	300	63,500.00	96,100.00		153,000.00	39,900.00		59,200.00	38,200.00
Lead	25	22.30	32.40		43.60	17.00		167.00	53.20
Magnesium	35000	48,200.00	57,500.00		109,000.00	48,400.00		67,900.00	83,300.00
Manganese	300	1,160.00	1,670.00		2,040.00	579.00		2,450.00	2,480.00
Mercury	2	ND	0.05 B		0.32	ND		0.61	ND
Methylene chloride	5	22.00 B	23.00 B		ND	-		ND	ND
Nickel	N/A	63.90	94.40		130.00	24.80 B		60.30	10.60 B
Potassium	N/A	14,000.00 E	18,400.00 E		27,000.00	9,180.00		50,400.00 E	35,000.00
Selenium	10	ND	ND		ND	ND		ND	ND
Silver	50	ND	ND		ND	5.40 B		ND	7.70 B
Sodium	20000	27,400.00	26,800.00		149,000.00	100,000.00		925,000.00	1,300,000.00
Thallium	4	ND	4.10 B		ND	ND		ND	ND
Vanadium	N\A	89.30	134.00		212.00	61.90		65.50	8.50 B
Zinc	300	144.00	216.00		295.00	80.00		225.00	77.10

TABLE 1
Fort Totten Groundwater Data

Analyte	Groundwater Standards/ Criteria C_w ($\mu g/L$)[a]	BUILDING 602	BUILDING 109-113 (FORMER STP)					
Sample ID		FTMW03	FTMW04			FTMW05		
Date		7/15/97	11/15/96		3/12/97	11/18/96	3/12/97	7/15/97
Acetone	50	ND	34.00		ND	ND	ND	ND
Aluminum	N/A	1,770.00	1,600.00		9,830.00	16,800.00	4,230.00	632.00
Antimony	3	ND	ND		ND	ND	50.40 B	ND
Arsenic	25	5.40 B	7.80	B	10.50	18.20	ND	7.90 B
Barium	1000	167.00 B	282.00		362.00	419.00	123.00 B	273.00
Beryllium	3	ND	1.00		0.91	ND	ND	0.91 B
Bis(2-ethylhexyl)phthalate	50	-	26.00		ND	ND	ND	-
Cadmium	10	ND	1.00		ND	ND	ND	6.10
Calcium	N/A	230,000.00	97,300.00		93,100.00	126,000.00	124,000.00	131,000.00
Chromium	50	9.20 B	12.80		35.10	42.20	14.80	ND
Cobalt	N\A	ND	4.20	B	7.10 B	19.50 B	ND	ND
Copper	200	ND	4.50	B	25.50	43.00	ND	9.80 B
Cyanide	100	-	ND		ND	ND	ND	-
Iron	300	11,600.00	30,000.00		66,100.00	83,200.00	35,500.00	54,500.00
Lead	25	22.40	3.50		10.00	19.80	4.70	ND
Magnesium	35000	87,400.00	23,800.00		26,500.00	90,800.00	50,200.00	90,300.00
Manganese	300	1,860.00	817.00		859.00	8,090.00	6,190.00	7,180.00
Mercury	2	ND	0.10	B	ND	ND	ND	ND
Methylene chloride	5	-	ND		ND	21.00 B	ND	-
Nickel	N/A	ND	9.40	B	26.90 B	43.80	ND	ND
Potassium	N/A	39,300.00	3,200.00	BE	5,030.00	28,500.00 E	22,400.00	21,300.00
Selenium	10	ND	4.50	B	ND	ND	ND	ND
Silver	50	9.40 B	1.00	B	ND	ND	ND	4.20 B
Sodium	20000	928,000.00	125,000.00		131,000.00	732,000.00	493,000.00	864,000.00
Thallium	4	ND	ND		ND	9.60 B	ND	ND
Vanadium	N\A	6.10 B	4.80	B	32.10 B	53.90	15.80 B	ND
Zinc	300	33.80	21.50		56.50	93.20	32.60	6.90 B

TABLE 1
Fort Totten Groundwater Data

Analyte	Groundwater Standards/ Criteria C_w ($\mu g/L$)[1]	BUILDING 102			BUILDINGS 103 AND 600		
Sample ID		FTMW06			FTMW10		
Date		11/15/96	3/12/97	7/15/97	11/19/96	3/11/97	7/15/97
Acetone	50	ND	ND	-	250.00 E	42.00	ND
Aluminum	N/A	35,700.00	7,300.00	632.00	17,700.00	5,670.00	2,490.00
Antimony	3	ND	ND	ND	ND	ND	ND
Arsenic	25	13.80	10.00	ND	4.50 B	ND	ND
Barium	1000	409.00	363.00	73.10	361.00	136.00 B	170.00 B
Beryllium	3	2.40 B	0.92 B	0.60 B	ND	ND	0.89 B
Bis(2-ethylhexyl)phthalate	50	ND	ND	-	ND	ND	-
Cadmium	10	1.00	ND	ND	ND	ND	ND
Calcium	N/A	68,700.00	160,000.00	45,700.00	32,200.00	23,100.00	22,700.00
Chromium	50	102.00	21.60	ND	53.90	14.90	ND
Cobalt	N/A	38.90 B	7.10 B	ND	24.10 B	6.00 B	9.30 B
Copper	200	97.50	18.30 B	6.20 B	51.00	9.90 B	18.70 B
Cyanide	100	ND	ND	-	ND	ND	-
Iron	300	77,500.00	79,500.00	10,200.00	33,600.00	12,500.00	4,440.00
Lead	25	42.00	10.70	ND	9.10	3.36	8.70
Magnesium	35000	49,700.00	116,000.00	24,500.00	29,700.00	19,100.00	16,000.00
Manganese	300	2,200.00	11,600.00	1,430.00	3,490.00	1,910.00	2,390.00
Mercury	2	0.18 B	ND	ND	0.28	ND	ND
Methylene chloride	5	ND	ND	-	22.00 B	ND	-
Nickel	N/A	114.00	9.80 B	ND	87.80	19.40 B	21.20 B
Potassium	N/A	24,500.00 E	22,700.00	10,200.00	12,900.00 E	7,560.00	6,330.00
Selenium	10	6.60	ND	ND	ND	ND	ND
Silver	50	1.00	8.60	6.20 B	ND	ND	ND
Sodium	20000	243,000.00	955,000.00	188,000.00	15,500.00	12,900.00	11,100.00
Thallium	4	ND	ND	ND	5.70 B	ND	ND
Vanadium	N/A	136.00	27.60 B	ND	48.40 B	11.00 B	9.30 B
Zinc	300	203.00	43.90	22.90	94.00	49.60	40.80

TABLE 1
Fort Totten Groundwater Data

Analyte	Groundwater Standards/ Criteria C_w ($\mu g/L$)[a]	PARADE GROUNDS (BACKGROUND GROUNDWATER QUALITY)		
Sample ID		FTMW12		
Date		11/19/96	3/12/97	7/15/97
Acetone	50	≤CRL (10)	ND	-
Aluminum	N/A	10,400.00	18,200.00	316.00
Antimony	3	≤CRL (5)	ND	ND
Arsenic	25	≤CRL (4)	ND	ND
Barium	1000	229.00	296.00	108.00
Beryllium	3	≤CRL (1)	1.70 B	0.91 B
Bis(2-ethylhexyl)phthalate	50	≤CRL (10)	ND	-
Cadmium	10	≤CRL (1)	ND	ND
Calcium	N/A	53,500.00	46,600.00	48,700.00
Chromium	50	33.70	57.70	ND
Cobalt	N\A	16.10 B	22.10 B	ND
Copper	200	30.50	55.50	4.50 B
Cyanide	100	≤CRL (10)	ND	-
Iron	300	21,700.00	38,100.00	617.00
Lead	25	6.20	10.60	ND
Magnesium	35000	34,200.00	34,800.00	27,400.00
Manganese	300	790.00	978.00	279.00
Mercury	2	≤CRL (.04)	ND	ND
Methylene chloride	5	22.00 B	ND	-
Nickel	N/A	57.50	76.80	15.70 B
Potassium	N/A	7,900.00 E	11,300.00	3,900.00 B
Selenium	10	≤CRL (3)	ND	ND
Silver	50	≤CRL (1)	ND	ND
Sodium	20000	31,000.00	20,100.00	33,600.00
Thallium	4	≤CRL (4)	ND	ND
Vanadium	N\A	33.50 B	56.70	ND
Zinc	300	69.60	107.00	14.10 B

[a] New York State Ambient Water Quality Standards and Guidance Values, October 1993, Article 17 of the Environmental Conservation Law and 6 NYCRR Parts 700-705. All standards and guidance values listed in this exhibit are values for the protection for the source of drinking water. Guidance values are used only where standard values are not available.

LEGEND:

- = Not Analyzed
N/A = Standard not available
ND = Not detected.
≤CRL (#) = **Less than or equal to the reporting limits**
= New York State Guidance Values; Numbers without pattern are New York State Standards
= Concentration exceeds the New York State Standard/Guidance value.

Organic Qualifiers

B = Compound was detected in the blank.
E = The reported analyte concentration is estimated because the concentration exceeded the upper level of the calibration range of the instrument for that specific analysis.

Inorganic Qualifiers

B = Reported Value was obtained from a reading that was less than the Contract required Detection Limit but greater than or equal to the Instrument Detection Limit.
E = The reported value is estimated because of the presence of interference.
N = Spike sample recovery not within control limits.